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thing to escape its restless vigilance. Quicksilver is also found, in considerable quantity, at Idria, a town in the circle of Lower Austria; the mines there have been wrought constantly for 300 years, and are thought, on an average, to yield 100 tons annually. It is likewise found in Hungary and China, and is seen in globules in some earths and stones in America, and collected from the clefts of rocks there.

Mercury is generally found in ore, the most valuable of which is called *native amalgam*, and contains 64 parts of mercury and 36 of silver. It is a white fluid metal, having the appearance and brilliancy of melted silver, and, in this state, has neither taste or smell, and is extremely divisible. Excepting platinum and gold, it is the heaviest metal, being 13½ times heavier than water. We see mercury always in a *fluid* state, because it is so very fusible, that a small proportion of heat is able to keep it in a state of fluidity. It was formerly imagined that the liquid state was essential to it, but Professor Braun being engaged in experiments on the power of freezing mixtures, and having perceived that one of his thermometers was stationary, he broke the bulb, and found the mercury completely congealed; and, in the winter of 1799, Mr. Pepys froze 56 pounds of it into a solid and malleable mass; and at Hudson's Bay frozen mercury has been lately reduced to sheets almost as thin as common paper, by beating it upon an anvil that had been previously reduced to the same temperature.

It is one of the laws of nature, that all bodies expand as they acquire heat; and this may be readily proved by fitting tightly a piece of iron wire to slip through a ring, and making it red hot, when it will be found so far increased in size as not to enter it. Mercury possesses this quality, in an eminent degree, being peculiarly susceptible of heat, for which it has so great a capacity or affinity, that it absorbs a sufficient quantity from our atmosphere to keep it constantly in a fluid state. It is owing to this property of expanding *readily*, by every addition of heat, that it is used in making thermometers. After procuring a glass tube, with a bulb at one end, the thermometer maker puts the usual quantity of mercury into it, and, by applying sufficient heat, expands it until it fills the tube, forcing out, as it rose, all the air; the tube is then hermetically sealed, and, as the mercury cools, it proportionally sinks, and is then affixed to a graduated plate, on which is marked the degrees of heat, which any medium is said to have attained, when it is able to impart sufficient heat to the mercury to raise it level with that degree. For instance, to tell the heat of water, it is only necessary to keep the thermometer in it a few moments, when the quicksilver will expand or rise in proportion to the warmth of the water. As a proof of the rapidity with which mercury absorbs heat, some of it, which had been frozen, was placed in a glass of warm water; it immediately became liquid, while the water was as immediately frozen, and, by the rapidity of the action, the glass was shivered into a thousand pieces. It will also give up the heat it contains with considerable quickness.

It is enough to excite our admiration, at the wisdom of the Almighty Maker of the universe, that all bodies do not receive or yield up their heat as readily as mercury, when we consider, that did not the earth hold it with greater tenacity, in many parts, where the cold is often 50 degrees below the freezing point, the various families of vegetables, for the preservation of which heat is essentially necessary, would perish. But nature has not only provided the earth with this affinity and tenacity for heat, but has ordained it so, that whenever the atmosphere is reduced to 32 degrees, the water it holds in solution becomes frozen, and is precipitated in the form of snow—thus covering the earth, as with a carpet, through which the colder air cannot attract a large quantity of that heat which it is so necessary for it to retain. Some of the earths are so very slow conductors of heat, that the red hot balls, employed by the garrison of Gibraltar to destroy the Spanish floating batteries, were carried from the furnaces to the bastions in *wooden* barrows, with only a layer of *sand* interposed, and this was found sufficient to prevent the balls setting fire to the wood.

Quicksilver is so extremely divisible, that it may be strained through the pores of leather by moderate pressure, and thus freed from dust and other impurities. Dr. Paris, however, states, that it is sometimes adulterated by an alloy of lead and bismuth; and that, when so adulterated, the method above will not purify it, for although the alloy should exceed one-fourth of the entire bulk, it will pass with the mercury through the leather.

A singular paradox has been pointed out by Mr Chenevix, in the amalgamation of mercury with platinum—for although mercury is 13½ times, and platinum 21 times, heavier than water, yet the mixture will be only 11½ times as heavy.

Several of the uses of mercury were known to the ancients. Theophrastus, a Greek philosopher, who wrote about 300 years before Christ, was acquainted with it, and knew how to treat it, so as to form vermillion; which beautiful scarlet pigment is a composition of sulphur and mercury. Europe has, hitherto, been furnished with it, by the Dutch manufacturers, of greater beauty than any which has come from other markets, excepting the Chinese, which comes in small packets, and is nearly the colour of fine lake. In South America mercury is used to separate gold and silver from the extraneous matters found with them. By triturating the mass with mercury, these metals, for which it has a great affinity, become amalgamated with it; and, afterwards, this amalgam is submitted to heat, by which the mercury is evaporated, leaving the precious metals in a state of purity. It is used also in gilding copper watch-cases, buttons, &c. which are first cleaned with weak aqua fortis, and then plunged in a diluted solution of mercury—the mercury attaches itself to the copper, and this causes the gold to adhere, because of the affinity existing between the mercury and it; heat is then applied, and the mercury being volatilized, leaves the gold upon the copper. Mercury is used in the preparation of many of the most valuable medicines—calomel, corrosive sublemate, red and white precipitate, are all manufactured from it; and, also, a fulminating powder, which might, in some instances, be advantageously employed in blasting rocks, as its immediate force is much greater than that of gunpowder. E. B.

COMPLAINTS OF OCTOBER.

In the early part of this month, it is sufficiently warm in the middle of the day, and in some years the atmosphere is as tranquil as it usually is in the month of September: but the rain now begins to fall, the equinoctial winds strip the trees of their foliage, and join the rainy season in giving the last blow to the heats of summer the evenings and mornings become more chill, and therefore it must be expected that diseases will become numerous and severe

In October inflammatory diseases, and particularly those which affect the chest, increase greatly in number and variety of appearance. Fevers also begin now to shew themselves, although it is perhaps not until November, that the bad forms of fever appear in any great number.

Rheumatism indeed is occasionally met with, but the class of diseases which more particularly prevails in October, is inflammation of the respiratory organs in some of the numerous varieties of disorders of the chest.

But here again we may see how great a difference variation of circumstances makes in the same disease. The chest diseases of spring are totally different from those which occur in autumn; nay, indeed, they would seem to be diseases really of a different part. In spring pleurisy, and under that name must be comprehended all those pains in the side and stitches which occur at that season, abounds, whilst the coughs are all dry and hard, and the the attendant fever violent in a degree. In the chest complaints of autumn, on the contrary, pleurisy does not often appear; pains in the side are very seldom complained of, the coughs are hoarse and barking, they are usually attended at an earlier period of the disease by a copious, and in the latter periods, a sticky expectoration, and the attendant fever does not bear the use of the lancet so well as in the former part of the year ; in short the inflammation is not, as in the spring, seated in that membrane which covers the lungs, and lines the cavity of the chest, but it resides in the substance of the lungs themselves, or more commonly in the membrane which lines the organ of voice, or its continuation the wind-pipe, the air-tubes and terminating air-cells of the lungs. Thus, it is seen, that the inflammatory diseases of autumn belong chiefly to the lungs, and we therefore meet with hoarseness, influenzas, and other sneezing colds, loss of voice, convulsive coughs, and diseases which put on the appearance of croup ; whilst in spring, although cases of similar disease sometimes occur just as the spring-form of chest complaints is occasionally met with in autumn, the majority of cases, as we have before said, put on a very different appearance. Of course more care is required to avoid these dangerous complaints than is necessary in the month of September, and the caution is more particularly applicable to the case of very old or very young subjects. The asthmas of old people are closely allied to the forms of chest complaint, of which we have spoken : and with regard to children, it is now that we meet with those hoarse influenza-like colds, which run through whole families without even permitting the elder branches to escape.—The adoption of much warmer clothing, and thus preventing the skin from being too much and too suddenly chilled, and the use of fire as soon as the mornings and evenings become uncomfortably cold, form, perhaps, the best preservative against the attack of diseases, such as have been described above.

But this is perhaps the time when our forefathers bled and took physic. The practice, although it is now much neglected, was assuredly beneficial to many persons ; yet as far as our experience has gone, it is more useful in spring when the body is braced up to its highest pitch of tone than at the fall of the year, when it may be considered to be somewhat enervated by the relaxing effects of the preceding hot weather, and the increase of innutritious food by which it was accompanied. On the whole, therefore, violent evacuations are not to be recommended in autumn.

AMUSEMENT AT PARTIES.

Music is a very delightful thing, but at large parties it is seldom enjoyed—it is, however, the order of the day.—Certain it is, that of the great overpowering number of persons collected to listen to it, there is not one in twenty qualified to judge even of vocal, much less of instrumental music ; indeed a lesson of the finest composer played with exquisite taste and execution, I have often found the general *dechainment* of tongues—even those who were silent before talked then, by the same sort of secret sympathy which swells the notes of the canary bird in his cage, to overpower the conversation—a circle is formed round the instrument, talking *a qui mieux mieux.* Large parties would prove more pleasant if the sphere of amusement were enlarged—there might be liberty to sit and converse. If reading was cultivated as an *accomplishment*, it might be made to contribute much to the entertainment—*short* passages either humourous or pathetic. From the yawning and stretching, as well as the opposite symptoms of restlessness and impatience displayed at parties, it would seem that we have not yet discovered the secret of combining engagement with pleasure, and of making the passage of time imperceptible by a well devised succession of interesting amusement.

In small circles *conversation* might, if rightly understood and assiduously cultivated, be made the instrument of very superior gratification ; but few persons possess that spring of mind which flows always abundantly, and sometimes to waste, with knowledge, temper, and discretion in the perfection essential to conversation ; few combine the happy art of repressing themselves and of exciting others —of preserving harmony, and at the same time of exciting discussion—of keeping back disagreeable subjects and making the best selection of those that are agreeable—and of sustaining pleasantry without stumbling into rudeness and personality. Some ingenious *woman* (for they know more of the matter than men) could write a treatise upon this subject, and give lively instances of the good, bad, and indifferent styles. If it were done with spirit, humour, and good sense, it would certainly prove more amusing as well as instructive than cranioscopy or ninemonics. Swift has made the way easy by his polite conversation, and rendered one chapter unnecessary—that on truisms, vulgarisms, and cant phrases.

SYNONOMY.

It is essential to the thorough knowledge of our language, to be able to distinguish accurately between words generally considered synonymous ;—upon this, strength, perspicuity, and elegance of style, materially depend; and what follows (which has been chiefly suggested by the Abbé Girard's celebrated Synonymes François) is given in the hope of exciting some of our correspondents to join with us in the endeavour to fix the true significations of words, and their appropriate application.

SELF-SUFFICIENT, IMPORTANT, ARROGANT.

The self-sufficient man goes a step beyond the *self-possessed*, and is, consequently, more apt to fall into error —his judgment may be strong, but is seldom well-regulated, and is generally dashed with vanity. The important man superadds somewhat of pride to an over-weening estimate of his own powers, and is something like gold-lace upon an old fashioned scarlet waistcoat. The arrogant man has almost always some spice of badness of heart in his disposition, which betrays itself in the despotism of his opinions. We avoid the self-sufficient, laugh at the important, and detest the arrogant. The first are found, in considerable abundance, in the professions called liberal, the second in public offices, and the third amongst the race of minute philosophers, of the Scotch school particularly, who moot inconceivable points, of which I shall give one specimen, more for the sake of recording Dr. Johnson's opinion, than of stating the subject matter of discussion, which was no less important an inquiry, than whether so many human creatures would now be on the face of the earth, if existence, instead of being imposed upon them, had been at their option. Much of this, Johnson, in reply to one of these sages, said, would depend upon the place of birth, and that he believed if that spot were *Scotland*, the *option* would be easily decided, and the ranks of the human race thinned beyond all possible computation.

TO IMITATE—TO COPY.

The first is generally a mark of quickness of mind, the second of barrenness—imitation is employed upon useful subjects; copying on comparatively trifling ones. We may imitate a man's virtues, or his style, or his politeness ; but we copy his foibles, the eccentricities of his manner, or the peculiarities of his dress ;—imitation terminates often in improvement, copying in still inferior mediocrity, and places the individual in the abject class of mimics, nine in ten of whom go out of themselves, without going into other people. On the stage, except Garrick, no mimic ever was a good actor, upon this very principle; for the intelligent performer endeavours to imitate general nature, and not to copy her in detail. Garrick sought in Bedlam for many of his traits in Lear, and Foote abused the hospitality of a Welsh gentleman's family, to glean the absurdities of Cadwalader. This marks the minds of the two men, and kept Foote in the trammels of buffoonery, though he had received a liberal education, while Garrick reached the summit of his profession, and was an ornament to it.—The Chinese are servile copyists, and are behind every other nation in proficiency in art and science. The savages of Botany Bay are most expert mimics, yet the greatest savages on the face of the earth, without religion, laws, or even the vestige of social institution.

RESEMBLANCE—CONFORMITY

These are terms which designate the existence of the same qualities in different subjects, but the first refers chiefly to corporeal coincidences, the latter to intellectual—there is a resemblance between features, and a conformity between minds.

INEQUALITY—DISPARITY.

These terms denote a difference, the first in quantity, and the second in quality. There is an inequality be-